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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,263	09/06/2006	Michel Strebelle	285333US0PCT	4439
22850	7590	11/10/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER MICALI, JOSEPH	
			ART UNIT	PAPER NUMBER
			4181	
			NOTIFICATION DATE	DELIVERY MODE
			11/10/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/567,263	Applicant(s) STREBELLE, MICHEL	
	Examiner JOSEPH V. MICALI	Art Unit 4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/5/06, 6/5/07, 10/5/07, 11/27/07</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Status of Application

Claims 10-18 are pending and presented for examination on the merit.

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because of usage of the word "said".

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 4181

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claims 10-12 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. DE 24 38 153 by Vollheim et al, in view of US Patent No. 2,368,507 by Welty, Jr.**

With respect to claims 10-12 and 18, Vollheim teaches a process where acetylene, from dehydrochlorination of 1,2-dichloroethane (DECa), was selectively hydrogenated to C₂H₄ over a fixed bed Pd-SiO₂ catalyst of low porosity with a gas mixture over 99.5% HCl, where processed gases were suitable for recycling and the catalyst was very easily regenerated (**Abstract**).

Vollheim, however alluding to and requiring catalyst regeneration, does not explicitly describe the process of thermal treatment in the presence of oxygen at a temperature between 300 and 700° C.

Welty, Jr. teaches a process for regenerating a catalyst, comprising any number of catalytic metals and inert supports (**column 1, lines 23-36**) by thermal treatment in the presence of oxygen (**claim 1**). Welty teaches a thermal treatment process ranging starting from 500 to under 1200° F, specifically a range of 1050-1100° F, or 566-593° C (**column 4, lines 64-68**).

Volheim teaches the above hydrogenation process including catalyst regeneration while Welty, Jr. discloses a process of regenerating catalysts similar to the ones used by Vollheim,

Art Unit: 4181

wherein the regeneration is carried out by heating the catalyst in the presence of oxygen up to a temperature of 1050-1100° F, or 566-593° C. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Vollheim such that the catalyst is regenerated by heating the catalyst in the presence of oxygen up to a temperature of 1050-1100° F, or 566-593° C, in view of the teachings of Welty, Jr. The use of this manner of regeneration in the process of Vollheim would be the obvious use of one of the limited number of catalyst regeneration methods known in the art and would merely provide the expected regeneration of the hydrogenation catalyst.

With respect to claim 14, as mentioned above, the modified method of Vollheim teaches a thermal treatment in between 1050-1100° F, or 566-593° C (**Welty, Jr., column 4, lines 64-68**).

With respect to claim 15, the modified method of Vollheim teaches a process for regenerating a catalyst, essentially by thermal treatment in the presence of oxygen (**Welty, Jr., claim 1**) or oxygen-containing gas, specifically in the presence of air (**Welty, Jr., column 4, lines 59-68**).

With respect to claim 16, the modified method of Vollheim teaches a process where the thermal treatment consists in a residence in a reactor vessel (**Welty, Jr., Figure 1, and column 4, lines 13-15**). This is a functional equivalent of a stove, which is defined an enclosed heated space. A reactor vessel would then, in fact, be a stove.

With respect to claim 17, Vollheim teaches a process where acetylene, from dehydrochlorination of 1,2-dichloroethane (DECa), was selectively hydrogenated to C₂H₄ over a fixed bed Pd-SiO₂ catalyst of low porosity with a gas mixture over 99.5% HCl, where processed

Art Unit: 4181

gases were suitable for recycling and the catalyst was very easily regenerated (**Abstract**). The process of Vollheim is the same as recited (other than the specifics of the regeneration, which occurs after the process anyway), and thus, it would be expected to inherently include the same type of contamination as applicant's process.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. DE 24 38 153 by Vollheim et al, in view of US Patent No. 2,368,507 by Welty, Jr., as applied to claim 10 above, and further in view of US Patent No 5,919,425 by Nguyen et al.

With respect to claim 13, Vollheim and Welty, Jr. together teach a process where acetylene, from dehydrochlorination of 1,2-dichloroethane (DECa), was selectively hydrogenated to C_2H_4 over a fixed bed Pd-SiO₂ catalyst of low porosity with a gas mixture over 99.5% HCl, where processed gases were suitable for recycling and the catalyst was regenerated in a process consisting essentially of a thermal treatment in the presence of oxygen at a temperature of between 300 and 700° C (**Vollheim, abstract, and Welty, Jr., claim 1 and column 4, lines 64-68**).

Vollheim and Welty, Jr. both require a similar inert support; however, neither explicitly teaches that the inert support has a BET surface area of less than 5 m²/g.

Nguyen is drawn to a process for making homogeneous catalytic regenerative heat transfer packing material, specifically an impregnated porous ceramic substrate with a BET surface area of at least about 4 m²/g to about 30 m²/g (**claim 1**).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to perform the process of Vollheim and Welty, Jr. including an inert support with a BET surface area of less than 5 m²/g, in view of the teaching of Nguyen. The suggestion or motivation

Art Unit: 4181

for doing so would have been to provide an inert support BET surface area required by Vollheim and Welty, Jr. but not disclosed, in order to achieve better catalytic activity.

Conclusion

8. Claims 10-18 are not allowed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH V. MICALI whose telephone number is (571)270-5906. The examiner can normally be reached on Monday through Friday, 7:30am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VICKIE KIM can be reached on (571)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/567,263

Page 7

Art Unit: 4181

/JOSEPH V MICALI/

Examiner, Art Unit 4181

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 4181